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Reviewer: Durreshwar Anjum

Timestamp: Fri Sep 28 12:31:48 EDT 2007

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Application No: 10587776 Version No: 1.0

Input Set:

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Finished: 2007-09-18 19:09:54.325

Elapsed: 0 hr(s) 0 min(s) 1 sec(s) 411 ms

Total Warnings: 0

Total Errors: 0

No. of SeqIDs Defined: 14

Actual SeqID Count: 14

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YOSHIKAWA, Tomohiro
UCHIMURA, Eiichiro
MIYAKE, Jun

<120> COMPOSTIONS AND mETHOD FOR ELEVATING GENE TRANSFER
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<140> 10587776

<141> 2007-09-18

<160> 14

<170> PatentIn version 3.1

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<212> DNA

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Leu Gly Thr Ala Val Pro Ser Thr Gly Ala Ser Lys Ser Lys Arg Gln	
20 25 30	
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Ala Gln Gln Met Val Gln Pro Gln Ser Pro Val Ala Val Ser Gln Ser	
35 40 45	
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Lys Pro Gly Cys Tyr Asp Asn Gly Lys His Tyr Gln Ile Asn Gln Gln	
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Trp Glu Arg Thr Tyr Leu Gly Asn Ala Leu Val Cys Thr Cys Tyr Gly	
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gga agc cga ggt ttt aac tgc gag agt aaa cct gaa gct gaa gag act	288
Gly Ser Arg Gly Phe Asn Cys Glu Ser Lys Pro Glu Ala Glu Glu Thr	
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Cys Phe Asp Lys Tyr Thr Gly Asn Thr Tyr Arg Val Gly Asp Thr Tyr	
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Glu Arg Pro Lys Asp Ser Met Ile Trp Asp Cys Thr Cys Ile Gly Ala	
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Gly Arg Gly Arg Ile Ser Cys Thr Ile Ala Asn Arg Cys His Glu Gly	
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Trp Thr Cys Lys Pro Ile Ala Glu Lys Cys Phe Asp His Ala Ala Gly	
180 185 190	
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Cys Thr Ser Arg Asn Arg Cys Asn Asp Gln Asp Thr Arg Thr Ser Tyr	
225 230 235 240	
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Arg Ile Gly Asp Thr Trp Ser Lys Lys Asp Asn Arg Gly Asn Leu Leu	
245 250 255	
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Gln Cys Ile Cys Thr Gly Asn Gly Arg Gly Glu Trp Lys Cys Glu Arg	
260 265 270	
cac acc tct gtg cag acc aca tcg agc gga tct ggc ccc ttc acc gat	864
His Thr Ser Val Gln Thr Thr Ser Ser Gly Ser Gly Pro Phe Thr Asp	
275 280 285	
gtt cgt gca gct gtt tac caa ccg cag cct cac ccc cag cct cct ccc	912
Val Arg Ala Ala Val Tyr Gln Pro Gln Pro His Pro Gln Pro Pro Pro	
290 295 300	
tat ggc cac tgt gtc aca gac agt ggt gtg gtc tac tct gtg ggg atg	960
Tyr Gly His Cys Val Thr Asp Ser Gly Val Val Tyr Ser Val Gly Met	
305 310 315 320	
cag tgg ctg aag aca caa gga aat aag caa atg ctt tgc acg tgc ctg	1008
Gln Trp Leu Lys Thr Gln Gly Asn Lys Gln Met Leu Cys Thr Cys Leu	

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ggc aac gga gtc agc tgc caa gag	aca gct gta acc cag act tac ggt		1056
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Ala Ala His Glu Glu Ile Cys Thr	Thr Asn Glu Gly Val Met Tyr Arg		
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tgc acg tgt gtt ggg aat ggt cgt	ggg gaa tgg aca tgc att gcc tac		1488
Cys Thr Cys Val Gly Asn Gly Arg	Gly Glu Trp Thr Cys Ile Ala Tyr		
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tcg cag ctt cga gat cag tgc att	gtt gat gac atc act tac aat gtg		1536
Ser Gln Leu Arg Asp Gln Cys Ile	Val Asp Asp Ile Thr Tyr Asn Val		
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Asn Asp Thr Phe His Lys Arg His	Glu Glu Gly His Met Leu Asn Cys		
515	520	525	
aca tgc ttc ggt cag ggt cgg ggc	agg tgg aag tgt gat ccc gtc gac		1632
Thr Cys Phe Gly Gln Gly Arg Gly	Arg Trp Lys Cys Asp Pro Val Asp		
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Gln Cys Gln Asp Ser Glu Thr Gly	Thr Phe Tyr Gln Ile Gly Asp Ser		
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tgg gag aag tat gtg cat ggt gtc aga tac cag tgc tac tgc tat ggc	1728
Trp Glu Lys Tyr Val His Gly Val Arg Tyr Gln Cys Tyr Cys Tyr Gly	
565 570 575	

cgt ggc att ggg gag tgg cat tgc caa cct tta cag acc tat cca agc	1776
Arg Gly Ile Gly Glu Trp His Cys Gln Pro Leu Gln Thr Tyr Pro Ser	
580 585 590	

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Ser Ser Gly Pro Val Glu Val Phe Ile Thr Glu Thr Pro Ser Gln Pro	
595 600 605	

aac tcc cac ccc atc cag tgg aat gca cca cag cca tct cac att tcc	1872
Asn Ser His Pro Ile Gln Trp Asn Ala Pro Gln Pro Ser His Ile Ser	
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aag tac att ctc agg tgg aga cct gtg agt atc cca ccc aga aac ctt	1920
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85 90 95

Cys Phe Asp Lys Tyr Thr Gly Asn Thr Tyr Arg Val Gly Asp Thr Tyr
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Glu Arg Pro Lys Asp Ser Met Ile Trp Asp Cys Thr Cys Ile Gly Ala
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Gly Arg Gly Arg Ile Ser Cys Thr Ile Ala Asn Arg Cys His Glu Gly
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Gly Gln Ser Tyr Lys Ile Gly Asp Thr Trp Arg Arg Pro His Glu Thr
145 150 155 160

Gly Gly Tyr Met Leu Glu Cys Val Cys Leu Gly Asn Gly Lys Gly Glu
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Cys Thr Ser Arg Asn Arg Cys Asn Asp Gln Asp Thr Arg Thr Ser Tyr
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245 250 255

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Tyr Gly His Cys Val Thr Asp Ser Gly Val Val Tyr Ser Val Gly Met
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Phe Cys Thr Asp His Thr Val Leu Val Gln Thr Arg Gly Gly Asn Ser
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Asn Gly Ala Leu Cys His Phe Pro Phe Leu Tyr Asn Asn His Asn Tyr
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Thr Thr Gln Asn Tyr Asp Ala Asp Gln Lys Phe Gly Phe Cys Pro Met
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Ala Ala His Glu Glu Ile Cys Thr Thr Asn Glu Gly Val Met Tyr Arg
450 455 460

Ile Gly Asp Gln Trp Asp Lys Gln His Asp Met Gly His Met Met Arg
465 470 475 480

Cys Thr Cys Val Gly Asn Gly Arg Gly Glu Trp Thr Cys Ile Ala Tyr
485 490 495

Ser Gln Leu Arg Asp Gln Cys Ile Val Asp Asp Ile Thr Tyr Asn Val
500 505 510

Asn Asp Thr Phe His Lys Arg His Glu Glu Gly His Met Leu Asn Cys
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530 535 540

Gln Cys Gln Asp Ser Glu Thr Gly Thr Phe Tyr Gln Ile Gly Asp Ser

545 550 555 560

Trp Glu Lys Tyr Val His Gly Val Arg Tyr Gln Cys Tyr Cys Tyr Gly
565 570 575

Arg Gly Ile Gly Glu Trp His Cys Gln Pro Leu Gln Thr Tyr Pro Ser
580 585 590

Ser Ser Gly Pro Val Glu Val Phe Ile Thr Glu Thr Pro Ser Gln Pro
595 600 605

Asn Ser His Pro Ile Gln Trp Asn Ala Pro Gln Pro Ser His Ile Ser
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Gly Tyr

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Lys Ser Cys Gly Glu Cys Ile Gln Ala Gly Pro Asn Cys Gly Trp Cys
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50 55 60

Asp Asp Leu Glu Ala Leu Lys Lys Lys Gly Cys Pro Pro Asp Asp Ile
65 70 75 80

Glu Asn Pro Arg Gly Ser Lys Asp Ile Lys Lys Asn Lys Asn Val Thr
85 90 95

Asn	Arg	Ser	Lys	Gly	Thr	Ala	Glu	Lys	Leu	Lys	Pro	Glu	Asp	Ile	Thr	100	105	110
Gln	Ile	Gln	Pro	Gln	Gln	Leu	Val	Leu	Arg	Leu	Arg	Ser	Gly	Glu	Pro	115	120	125
Gln	Thr	Phe	Thr	Leu	Lys	Phe	Lys	Arg	Ala	Glu	Asp	Tyr	Pro	Ile	Asp	130	135	140
Leu	Tyr	Tyr	Leu	Met	Asp	Leu	Ser	Tyr	Ser	Met	Lys	Asp	Asp	Leu	Glu	145	150	155
Asn	Val	Lys	Ser	Leu	Gly	Thr	Asp	Leu	Met	Asn	Glu	Met	Arg	Arg	Ile	165	170	175
Thr	Ser	Asp	Phe	Arg	Ile	Gly	Phe	Gly	Ser	Phe	Val	Glu	Lys	Thr	Val	180	185	190
Met	Pro	Tyr	Ile	Ser	Thr	Thr	Pro	Ala	Lys	Leu	Arg	Asn	Pro	Cys	Thr	195	200	205
Ser	Glu	Gln	Asn	Cys	Thr	Ser	Pro	Phe	Ser	Tyr	Lys	Asn	Val	Leu	Ser	210	215	220
Leu	Thr	Asn	Lys	Gly	Glu	Val	Phe	Asn	Glu	Leu	Val	Gly	Lys	Gln	Arg	225	230	235
Ile	Ser	Gly	Asn	Leu	Asp	Ser	Pro	Glu	Gly	Gly	Phe	Asp	Ala	Ile	Met	245	250	255
Gln	Val	Ala	Val	Cys	Gly	Ser	Leu	Ile	Gly	Trp	Arg	Asn	Val	Thr	Arg	260	265	270
Leu	Leu	Val	Phe	Ser	Thr	Asp	Ala	Gly	Phe	His	Phe	Ala	Gly	Asp	Gly	275	280	285
Lys	Leu	Gly	Gly	Ile	Val	Leu	Pro	Asn	Asp	Gly	Gln	Cys	His	Leu	Glu	290	295	300
Asn	Asn	Met	Tyr	Thr	Met	Ser	His	Tyr	Tyr	Asp	Tyr	Pro	Ser	Ile	Ala	305	310	315
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His Leu Val Gln Lys Leu Ser Glu Asn Asn Ile Gln Thr Ile Phe Ala
325 330 335

Val Thr Glu Glu Phe Gln Pro Val Tyr Lys Glu Leu Lys Asn Leu Ile
340 345 350

Pro Lys Ser Ala Val Gly Thr Leu Ser Ala Asn Ser Ser Asn Val Ile
355 360 365

Gln Leu Ile Ile Asp Ala Tyr Asn Ser Leu Ser Ser Glu Val Ile Leu
370 375 380

Glu Asn Gly Lys Leu Ser Glu Gly Val Thr Ile Ser Tyr Lys Ser Tyr
385 390 395 400

Cys Lys Asn Gly Val Asn Gly Thr Gly Glu Asn Gly Arg Lys Cys Ser
405 410 415

Asn Ile Ser Ile Gly Asp Glu Val Gln Phe Glu Ile Ser Ile Thr Ser
420 425 430

Asn Lys Cys Pro Lys Lys Asp Ser Asp Ser Phe Lys Ile Arg Pro Leu
435 440 445

Gly Phe Thr Glu Glu Val Glu Val Ile Leu Gln Tyr Ile Cys Glu Cys
450 455 460

Glu Cys Gln Ser Glu Gly Ile Pro Glu Ser Pro Lys Cys His Glu Gly
465 470 475 480

Asn Gly Thr Phe Glu Cys Gly Ala Cys Arg Cys Asn Glu Gly Arg Val
485 490 495

Gly Arg His Cys Glu Cys Ser Thr Asp Glu Val Asn Ser Glu Asp Met
500 505 510

Asp Ala Tyr Cys Arg Lys Glu Asn Ser Ser Glu Ile Cys S